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SWEET PEA CULTURE

C.C. MORSE & CO.

SAN FRANCISCO, CALIFORNIA.

62.09 1916?

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Department of Agriculture

1916?

KING
WHITE

How We Grew Our "GRAND PRIZE" Sweet Peas

AT THE

Panama-Pacific International Exposition

1915

"Are these really Sweet Peas?" "Yes, these are Spencer Sweet Peas." "Are they grown from some special seed different to what we buy?" "Oh, no! These are grown from Morse's Sweet Peas, and from the same kind of seed you buy from us."

"How did you get such wonderful flowers?"

These were questions asked and answered hundreds of times a day at our wonderful display of Sweet Peas at the Panama-Pacific International Exposition in San Francisco, 1915.

We proved beyond all doubt that good Sweet Peas could be grown in California, and what we accomplished in California we are sure can be done almost anywhere. It has been proved that the "Cordon" system can be successfully employed as far east as Newport, R. I.

The Panama-Pacific International Exposition awarded our Sweet Peas the Highest Award, their "Grand Prize."

The "Cordon" system being new to the majority of amateur growers, judging from the number of times the last question was asked, we are going to record just what took place in connection with growing the wonderful Sweet Peas which gained for us the singular distinction of winning a "Grand Prize."

After experimenting for two years, we decided that it was a little better to sow the seed in pots in a cold frame, and plant out later on. This is not necessary, as great results can be had from out-of-door planting.

CULTURE OF THE SWEET PEA FOR EXHIBITION

The "Cordon" System of Growing Sweet Peas

A System that has proved successful in the East as well as in the West

We do not think we can do better than repeat our experience at the Panama-Pacific International Exposition—San Francisco, 1915.

PREPARATION OF THE SOIL

The soil must be deeply spaded or "trenched" as we term it. The soil in our garden at the Exposition was only about ten inches deep and underneath common beach sand. We took out the sand to a depth of four feet and made a trench three feet wide. Into the trench we put what good soil we could gather and mixed in a good dressing of well rotted farmyard manure, a dressing of old leaf mould, some bone meal, a dusting of lime and some "spent" hops.

It has lately been discovered that "spent" hops from the Brewery make an excellent fertilizer and they are wonderfully helpful to Sweet Peas. This compost was turned over three times during the winter in order to make sure the fertilizers were well mixed, choosing a time when the soil was dry. After the last time turned over we tramped down the soil in the trenches and made it as firm as possible. The Sweet Pea likes a firm soil and to get strength of growth as well as length of growth, a firm soil is essential. If the soil is too loose the flower stems will be weak and the flowers small and poorly placed and often the flower buds will drop off. We found our plants at the Exposition garden looking a little weak and beat the soil down around them by "tamping" with a log of wood. Immediately the growth got harder and stronger.

SOWING THE SEED IN POTS

We sowed our Sweet Peas in the pots on November 16th and sowed four seeds to each four-inch pot. When the plants were about three inches high, we re-potted them, putting one plant only in a four-inch pot, still keeping them in cold frames. During very cold or wet days the frames were covered with the glass "lights" or "sashes" as they are known to gardeners. The compost used in the pots was a mixture of loam, leaf mould, bone meal, and a dusting of lime.

The seeds were sown about three-fourths of an inch deep with the exception of the White and Lavender varieties, which were sown about one-half inch deep. The best way to sow the seed is to fill up the pots firmly to within half an inch of the top, then make holes for the seed with a blunt stick about the thickness of a lead pencil, then filling in the hole firmly with soil. A good watering should be given immediately after sowing and from then onward the pots should never be allowed to get too dry and also must not be kept wet all the time.

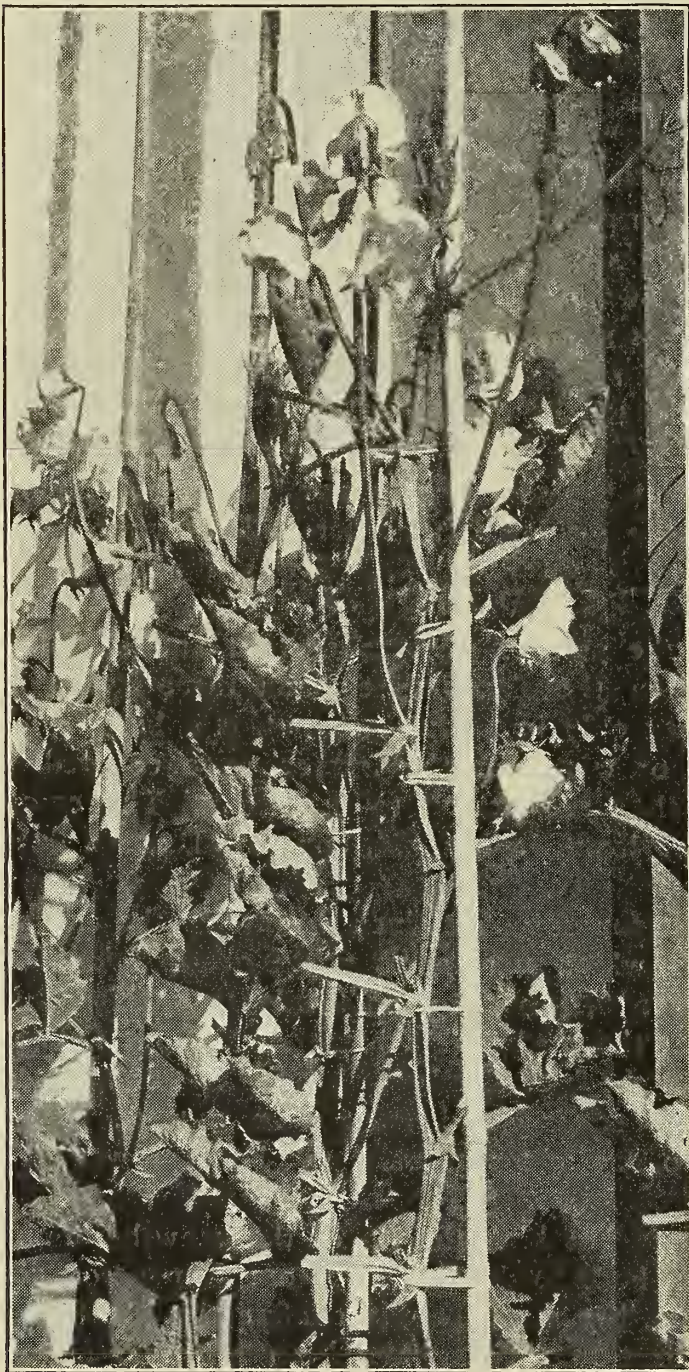
When the plant gets about four inches high the tip of the growth should be pinched off to encourage the lateral buds to develop. For our Exposition plants we allowed two growths to develop, but some people confine the plant to one growth. When the two laterals or side shoots have been selected, all other growths must be kept cut off. The two growths selected should be tied to their twigs or stakes so as they will not get twisted or broken.

PLANTING OUT FROM POTS OR BOXES

We planted out our Sweet Peas at the Exposition on March 17th, but they would have been better had the weather enabled us to plant them earlier. We put each plant one foot apart so that having two shoots to train up, the shoots or growths were six inches apart. Sweet Peas growing in pots for some time make a lot of root growth and these roots should be loosened out as much as possible at the same time not taking off all of the soil. Make a hole with a trowel about the depth of the roots and holding the plant so that the roots are at the bottom of the hole, fill in the soil gradually around the roots firmly. When planted the plant should be about an inch lower in the soil than it was in the pot. After planting it is generally best to give a good watering.

Do not plant out Sweet Peas while the soil is wet after rains. Wait until the soil gets dry enough to handle.

SUPPORTS FOR SWEET PEAS

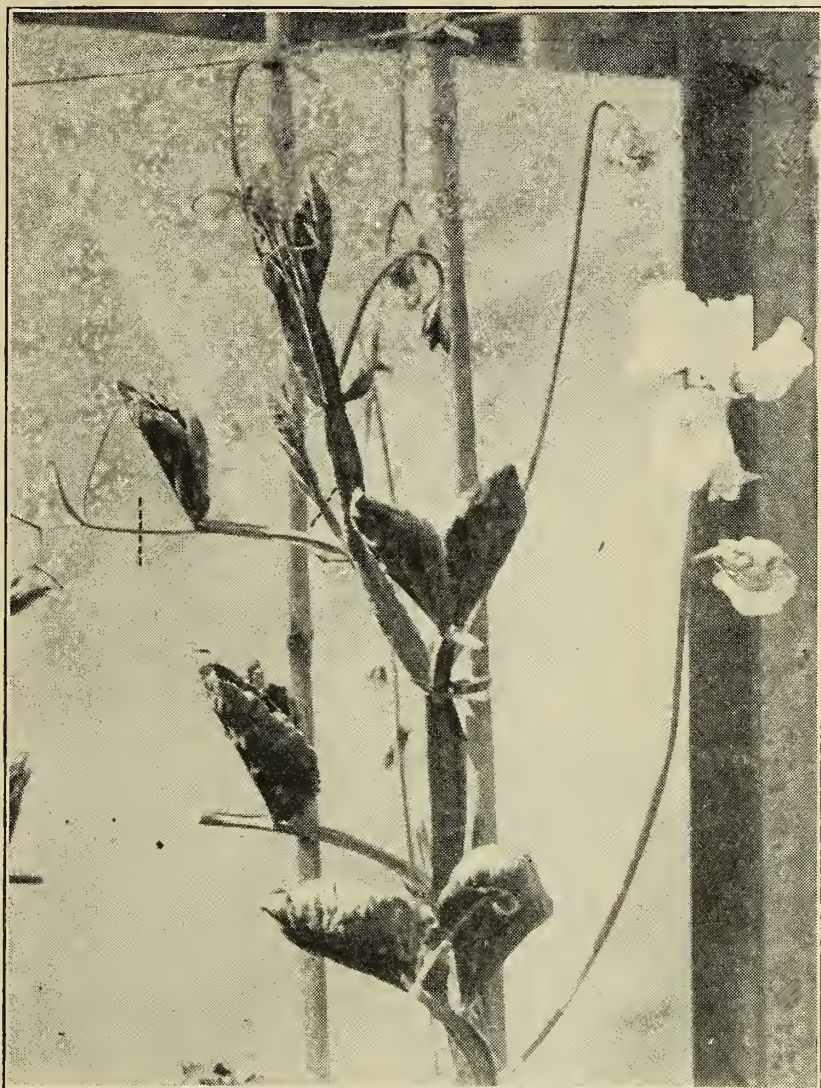


Method of tying Sweet Peas grown on Cordon System

At our Exposition Exhibit of Sweet Peas we used tall bamboo canes ten and twelve feet long for the supports. These were held in position by tying them to three strands of stout wire fastened horizontally to stout stakes 2x2. The arrangement was put up as follows — *before planting out* — at each end of the rows we had two 2x2 supports placed a foot apart and fastened together by strips of wood. Then we put similar supports at intervals of nine feet. The supports were three feet in the ground and ten feet above ground level. To these supports we nailed three strands of wire horizontally. The first strand was two feet above ground level and the next three feet above, and the next six feet above. The bamboo canes were pushed into the ground about a foot and then securely tied to the wires with string. The bamboos of course were placed six inches apart. It has been found that bamboos make the best kind of supports, being less susceptible to the heat and cold. The vines can be trained up stout string or wire netting, but for the "Cordon" system we recommend the bamboo canes.

CARE OF THE PLANTS

While the plants are growing in the pots they will not require much attention beyond the waiting. It is well, however, to watch that the shoots do not get twisted



Dotted lines show where tendril and lateral should be cut off

or the plants get drawn from being in any shade. After planting out, the Sweet Peas grown on the "Cordon" system will take a little attention every day. As they grow they will require tying to the bamboos and they should not be tied tightly as the stem gets much thicker as the plant grows. The side shoots will appear at every joint and these have to be kept cut out. It is well, too, when growing Sweet Peas on the "Cordon" system, to keep all tendrils cut off. These are no longer necessary as the plant is being supported by ties and the strength is better put in the leaves and flowers. The plants will probably not begin to flower until they are three to four feet high, and by this time the leaves will be getting large and thick.

Watering—Whenever the soil begins to get a little dry, the Sweet Peas should be watered. When watering, give a thorough soaking. One good watering a week should

be enough at first and later on twice a week is much better than a little sprinkle every day. Keep the surface soil round and about the rows of Sweet Peas moist, as this will create a moister atmosphere which the Sweet Peas like. Occasional spraying of the vines in the evenings will keep them clean and healthy.

After watering when the surface soil gets dry enough, stir it up with a hoe. Never let the soil bake and crack.

Feeding—In most soils the Sweet Peas will benefit from liquid manure applied after the plants have flowered for some time. This feeding must be done judiciously and carefully.

At the Exposition we were most successful with cow manure and soot. We had two barrels. In one we placed a sack of cow manure and in the other a sack of soot, keeping each tied up in the sack, filling each up with water. Each day they were stirred up and after soaking for a week we started feeding first once a week, giving a quart of each liquid to a three-gallon watering pot. After three weeks we fed the plants twice a week. We always watered with pure water before applying the liquid manure. During the summer we renewed the cow manure and the soot in the sacks.

When applying liquid feeding to the plants be careful not to let any get on the leaves and apply a little distance away from the stems.

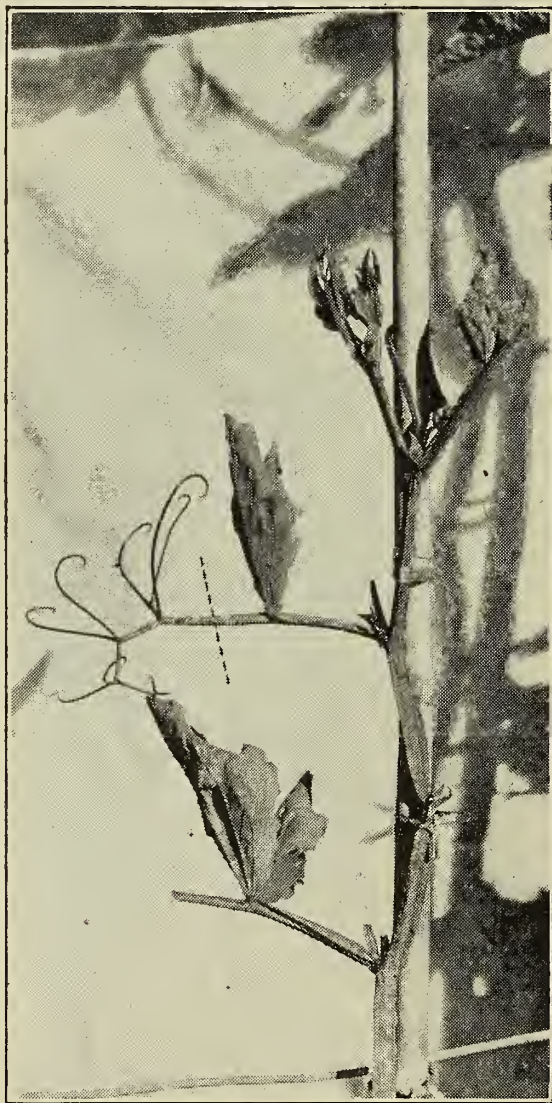
Nitrate of Soda when carefully used is a good fertilizer. We did not have to use any at the Exposition, but growers who think their plants want an impetus can use one ounce to the gallon of water once a week and later if the plants will stand it twice per week.

CAUTION ABOUT FEEDING

Do not overfeed. Start in lightly and watch carefully the result on the plants. Overfeeding can ruin your plants and cause buds to drop.

SHADING

Hitherto American growers have known little of this process, but there are now so many beautiful shades in Sweet Peas that "burn" badly in the strong sun that in order to get the full beauty of the flower the grower has to shade the plant. It takes very little to give sufficient shade and light cheese cloth or heavy netting is the best material to use. This should be stretched over the top of the wire netting by means of light wooden bars, above the varieties to be shaded. It really is very little trouble to shade a variety and the results will repay the grower a thousand times over. Examples of varieties that have to be shaded are, Thomas Stevenson, Stirling Stent, Charles Foster and Afterglow.



Showing clearly method of training shoot and how to cut off tendril

INSECT TROUBLES

The most serious pest of the Sweet Pea is the Green Aphis or Green Fly. If these are not very bad they can be destroyed by syringing with plain water, but if they get bad a spray will have to be made from Whale Oil Soap or Sulpho Tobacco Soap and Black Leaf 40 or other Nicotine preparation. One-fourth inch of Whale Oil Soap will be enough for ten gallons of water when Black Leaf 40 is added. Black Leaf 40 is used at the rate of 1 to 400.

The Aphis must be hit with the spray to get rid of it, and for small growers a hand sprayer will be good enough and for large growers an auto spray is recommended.

CARE OF THE PLANTS—INSECTS, ETC.

Disease—There is one disease known as the Streak Disease which is found in England, but so far very little in America. The plants turn yellow, get limp and finally die. So far there is no cure known, but an excess of fertilizers is said to help the disease to spread or at least bring about suitable conditions for its growth. Should signs of this disease appear on any plant it should at once be pulled up and destroyed by burning. The other plants should be given several waterings of lime, as this often prevents the disease spreading.

Bud Dropping—We get more enquiries about this condition than anything else connected with the growing of Sweet Peas. In 99 cases out of 100 there is no need for alarm, as the bud dropping is caused by weather conditions.

When growing our "Grand Prize" collection at the Fair we lost all buds until the plants were almost four feet high, but we knew that the cold foggy weather experienced at that time was responsible, as we had seen to it that other causes for bud dropping were non-existent. If the soil has not been well firmed before planting Sweet Peas, the buds will drop. If the soil is loose, tread it down well.

Sometimes too much water is the cause of bud dropping. Keep the soil loosed up around the plants.

Excessive feeding with commercial or liquid fertilizers will cause the buds to drop. Anyone who thinks this is the cause of their trouble should water with lime water when watering for a week or so. Often if cold nights come during the early flowering period, the buds will drop. As a rule the grower need not be alarmed if the first buds drop, as it is not an uncommon occurrence.

Slugs—Perhaps the most common and most discouraging pest of all amateur gardeners. Slugs generally abound where the garden is surrounded by a wall or fence, or where there is lots of thick grass or hedge growth near.

To prevent slugs, the bottoms of all board fences or walls should be kept free from weeds or growth of any kind. To keep the slugs off the plants, put a dusting of soot round the plant or along both sides of the rows. Lime is also very good and will keep the slugs away if used in the same manner as soot.

"Slug Shot" has been used with success as a means of killing slugs. It is applied in the same way as soot or lime.

HANDLING "CORDON" PLANTS REACHING TOP OF SUPPORTS

Many people who had seen our plants in flower in May were amazed when they saw our Sweet Peas blooming profusely during the month of September. The reason was this: When our plants reached the top of the bamboo canes we cut all the ties we had made to hold the growth to the canes and carefully

laid all the plants on the ground. *This operation must be done with great care, as the growths are easily broken.* When all the plants were taken down we took each growth and tied it horizontally along the bottoms of the canes about a foot from the ground until all but twelve or eighteen inches of the growth was left, and this we turned up again, on one of the bamboo canes.

It takes some judgment to get all the growths finished up at separate canes, but it can be done.

Once the plants get under way again they will give as good blossoms as they did before. The blooming season is practically doubled and the plants are always under control and tidy. Our Grand Prize plants made twenty-four feet of growth.

SOME HINTS FOR EXHIBITORS

You may have the very finest of Sweet Pea blossoms on your plants, but yet they will not be in condition on the exhibition table if you do not take a few important facts into consideration.

First of all—To insure the flowers being at their best when the judges view them, judge the age of the flowers to cut. That is to say, if the flowers are not to be judged until twelve hours after you cut them, you will not gather a flower that is at its prime.

When you cut it, cut one that you judge is just twelve hours too young. Of course allowance has to be made for the weather conditions existing at the time.

Always *cut* the flowers. Do not pull them. Cut stems take up the water more readily than *pulled* ones and there is less danger of damage being done to the vines. Stand the flowers in water a few hours before they are traveled to the exhibition. This means they will not flag and droop, but will travel for hours and arrive fresh.

PACKING SWEET PEAS TO TRAVEL

We have found that the best ways to travel Sweet Peas are as follows:

If you are carrying the flowers or taking them under your own care in an auto or conveyance of any kind, the flowers can be done up in small bunches and each bunch loosely wrapped with tissue paper. The bunches should then be packed loosely in a cardboard box. Holes should be made in the box for ventilation.

If the flowers are to be sent by Mail or Express, pack the bunches a little more tightly in the box and tie the stems of each bunch tightly to the bottom of the box. This will prevent the flowers sliding to one end of the box or being shaken about.

Observe the following rules when staging Sweet Peas at an exhibition:

HOW SWEET PEAS SHOULD BE SET UP FOR EXHIBITION AND HOW THEY WILL BE JUDGED

Sweet Pea foliage only should be used, with flowers unattached. About three pieces in a vase are sufficient, and these should be short. The flowers should be arranged as upright as possible and arranged loosely, so that each flower stands out by itself. No wiring is allowed. The blossoms should be arranged so that each one will face the judge as near as possible. If the class calls for several vases, careful consideration must be given to blending of color or suitable contrast. The judge's eye must be "caught," and it is wonderful how one color will help to show off another.

If staging is not provided at the show, use flower pots or wood blocks to raise the back rows of vases above the level of the front ones.

The American Sweet Pea Society suggests that an ideal bunch of Sweet Peas consists of not more than twenty-five sprays.

Less sprays, however, will often be more than sufficient if quality is right.

Coarse flowers placed far apart on long stems should never be taken into consideration with stems which are of less length and have large blossoms nicely placed at short intervals.

This is the American Sweet Pea Society's Scale of Points to Govern Judges:

Length of Stem	25
Color	20
Size	25
Substance	15
Number of Flowers on a Stem.....	15

Total..... 100

If you are beaten at the Show, be a graceful loser. Don't kick, but try harder next year.

PREPARATION OF THE GROUND FOR GENERAL CULTURE

The proper time to spade over the garden is in the early Fall, as the longer the soil can be left turned over and in a rough state, the better.

Presuming the place intended for Sweet Peas has been selected, the part to be spaded over should be marked off at least two feet wide. Give a liberal dressing of well-rotted farmyard manure, bone-meal and a dusting of lime if the soil is deficient.

First of all, make the hole about a foot deep and not less than two feet wide, taking the soil to the other end of the plot. This hole is made to insure good digging. The spade should be pushed straight down to its full depth, about six inches from the face of the hole. Lever it back by the handle, lift up the spadeful of soil and throw it into the hole taken out and proceed right along. See to it that the rough surface after digging is uniformly level, but do not chop the soil down fine until planting time.

If a jobbing gardener is employed, see that his digging is thorough and that the spade is pushed in straight and not at an angle of 150 degrees, as is often done. Good deep digging is the great secret to successful Sweet Pea growing.

SOWING THE SEED

A few of our customers have asked us why it is that their Sweet Pea seeds will not start, as the seed is apparently quite sound. This is not an uncommon occurrence with some varieties, for this reason: Many varieties have a very hard seed coat which prevents the moisture getting into the seed for a long time. The moisture must get into the seed to start the process of growth. To facilitate the moisture getting in, a small piece of the seed-coat may be clipped off with a sharp knife, or file a small notch in the seed-coat on the side opposite the eye or sprouting point of the seed.

Growers can easily recognize hard-coated seeds from their bullet-like appearance.

SOWING THE SEED IN THE OPEN GROUND

In the open ground, November and December are the best months to sow Sweet Peas, but they can be sown at any time as long as the ground remains in condition. By the month of November or December the ground will have had considerable rain, and if a nice day is chosen it will be found that the lumps will break down

nicely. The trench should then be well firmed down by treading. See that the soil is not too moist when this is done. The Sweet Pea likes a deep soil, but also a firm one.

The seed should be sown about an inch deep and sown thinly. Whenever the plants are well up they should be thinned out to a foot or eighteen inches apart. It is a great mistake to leave too many plants in, as the overcrowding is sure to result in poor flowers.

Thinning the Plants—Most people sow their Sweet Peas too thickly and leave the plants too thick. We strongly recommend thinning out the plants when about three inches high to at least six inches apart. If they are going to grow strongly they should be thinned out to one foot apart. The grower will get stronger plants and larger and better flowers.

At this time some twigs should be put around the plant to which the young tendrils may cling, as the plants will never do well if allowed to get twisted and blown about for want of support. The permanent support should be given when the plants are about six inches high.

CARING FOR THE PLANTS

As soon as the plants are about three inches high the center should be pinched out, as this will encourage stronger growths to develop.

There are several ways and means of supporting Sweet Peas. The best and most natural way is to get some fine broad tree boughs with plenty of twigs. Hazel boughs are excellent. If the Sweet Peas grow at all well, five or six foot boughs will be necessary.

Another very good way to support the vines is by means of wire netting. We have found that a very coarse netting with about four-inch mesh does very nicely. This coarse netting can be had in five-foot widths and by setting it a foot off the ground a six-foot height can be attained. It should be arranged that the wire is put on the side away from the wind so that the plants will blow on to the netting. Along the side of the row, drive in some stout stakes. These stakes should be at least one foot in the ground and six feet out of the ground. Intervals of about eight feet should be left between the stakes. Fasten the netting to the stakes by staples. The end stakes will want to be braced against the pull of the netting.

Yet another means of support can be made by driving in stout stakes and stretching strong strings between them as the plants require the support.

Should it not be convenient to plant the Sweet Peas in rows, a very pretty effect can be had along a sidewalk, or garden path, by planting clumps at intervals following the same cultural directions and leaving about three plants to a clump. A clump should be about two feet in diameter. The vines can either be supported by a circle of wire netting or by stakes and string.

After the last rains the Sweet Pea ground should be well hoed and mulched with old stable manure; or if this cannot be done, the soil must be constantly hoed during the summer and kept loose for several inches in depth to prevent cracking and loss of moisture.

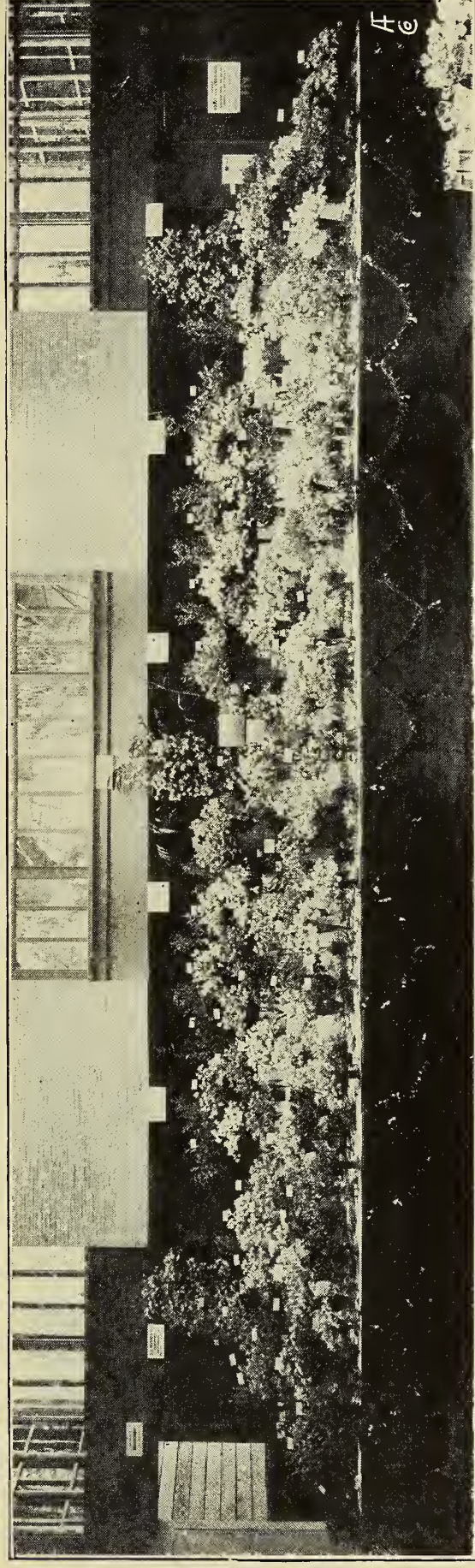
By the month of May the plants will be ready for some water, as they will have grown several feet high. Watering will be needed every day or so, and it is best done in the evening. Examine the row often to see whether or not any shoots require training into position. This is important, not only because the row will look better, but because it keeps the growths going straight, therefore straight stems will be the result.

The flowers should not be allowed to wither on the plants, but should be constantly cut off. This will greatly prolong the blooming season.

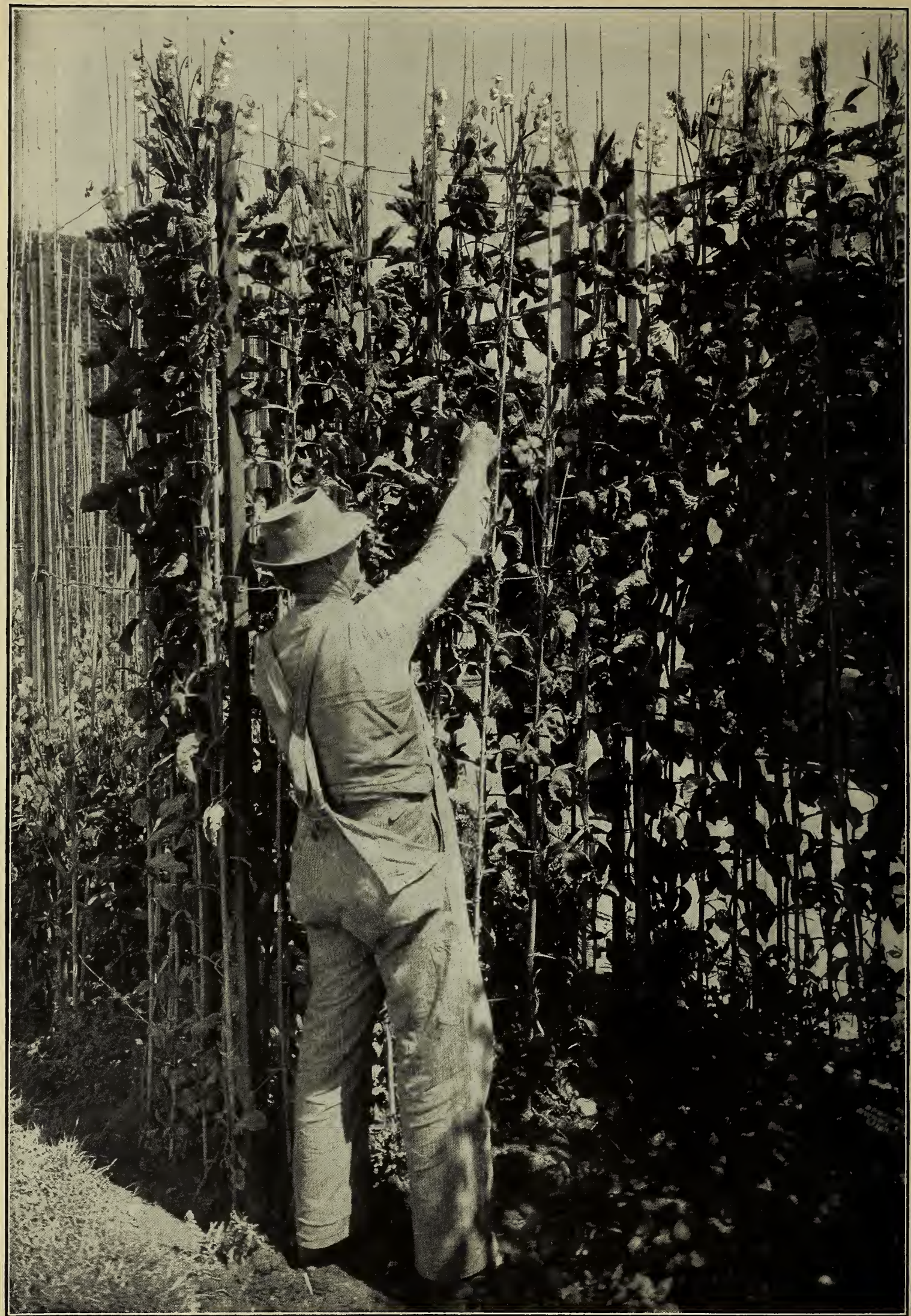
Morse's Sweet Pea Exhibit

Awarded

Medal of Honor of Panama-Pacific International Exposition
Gold Medal of British Sweet Pea Society



This exhibit comprised of 100 Varieties of the best Spencer Sweet Peas so clearly demonstrated the superiority of Morse's Seeds that the above awards were granted.



MORSE'S GRAND PRIZE SWEET PEAS
AT THE
PANAMA-PACIFIC INTERNATIONAL EXPOSITION
Growth by July 1st, 12 feet. Growth by September 15th, 24 feet.
Length of stems, 26 inches. Size of blossoms, $2\frac{3}{4}$ inches.